



OPERATING PERMIT (Conditional Major) Issued Pursuant to Tennessee Air Quality Act

Date Issued:

Date Expires: June 1, 2013

Permit Number:

454137P

Issued To:
TRICOR

Installation Address:

Route 1
Only

Installation Description:

03 Woodworking Operation
04 Surface Coating Operation
07 Three-Stage Wash System, Surface Coating of Metal
Furniture (NSPS) and Miscellaneous Metal Parts
09 Sign Plant and Dip Coating Operation

Emission Source Reference No.

41-0011
CONDITIONAL MAJOR

The holder of this permit shall comply with the conditions contained in this permit as well as all applicable provisions of the Tennessee Air Pollution Control Regulations.

GENERAL CONDITION:

1. The applications that were utilized in the preparation of this permit are dated December 6, 2000 (updated July 9, 2003 and April 29, 2004) and signed by John M. Brown, Maintenance Manager of the permitted facility. If this person terminates his employment or is reassigned different duties such that he is no longer the responsible person to represent and bind the facility in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification shall be in writing and submitted within thirty (30) days of the change. The notification shall include the name and title of the new person assigned by the source owner or operator to represent and bind the facility in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the facility until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.

(continued on the next page)

TECHNICAL SECRETARY

No Authority is Granted by this Permit to Operate, Construct, or Maintain any Installation in Violation of any Law, Statute, Code, Ordinance, Rule, or Regulation of the State of Tennessee or any of its Political Subdivisions.

NON TRANSFERABLE

POST AT INSTALLATION ADDRESS

SECTION I: The following conditions shall apply to all sections of this permit unless otherwise noted.

2. The permittee has elected to opt-out of being issued a major source operating permit pursuant to Division Rule 1200-3-9-.02(11)(a). The permittee would be considered a major source because their "potential to emit" value(s) for a single hazardous air pollutant (HAP), a combination of hazardous air pollutants (HAPs) and volatile organic compounds (VOCs) was greater than 10 tons, 25 tons, and 100 tons per year respectively, at the time of application. The permittee has agreed to be subject to limitations in order to be below the major source applicability threshold for a single HAP, any combination of HAPs, and VOCs of 10, 25, and 100 tons per year, respectively.
3. The permittee is placed on notice that **Conditions 5 and 6** of this permit contain limitations that allow the permittee to opt out of the major source operating permit program requirements specified in Rule 1200-3-9-.02(11) of the Tennessee Air Pollution Control Regulations. Failure to abide by these limits will not only subject the permittee to enforcement action by the State of Tennessee, but it may also result in the imposition of Federal enforcement action by the United States Environmental Protection Agency and the loss of being Federally recognized as a conditional major source.
4. Any non-compliance with any condition(s) of this permit set to restrain the "potential to emit" below the applicability threshold(s) of 1200-3-9-.02(11) of the Tennessee Air Pollution Control Regulations, shall be reported in writing to the Technical Secretary within three (3) working days of such discovery. This notification, at a minimum, shall include the identification of the source, identification of the permit condition(s) violated, and details of the violation.
5. Maximum volatile organic compounds emitted from this facility shall not exceed 95 tons during all intervals of 12 consecutive months.

This emission limitation is established pursuant to Rule 1200-3-9-.02(11) of the Tennessee Air Pollution Control Regulations and the information contained in the agreement letter dated February 2, 2001 from the permittee. The permittee has requested this limitation in order to opt out of Title V applicability. Compliance with this facility wide emission limitation shall be determined from the logs required by **Condition 15**.

6. Emissions of any hazardous air pollutant (HAP) listed in Section 112 of the Federal Clean Air Act shall not exceed 9.2 tons during all intervals of 12 consecutive months. Emissions of any combination of HAPs shall not exceed 22.5 tons during all intervals of 12 consecutive months.

This emission limitation is established pursuant to Rule 1200-3-9-.02(11) of the Tennessee Air Pollution Control Regulations and the information contained in the agreement letter dated February 2, 2001 from the permittee. The permittee has requested this limitation in order to opt out of Title V applicability. Compliance with these facility wide emission limitations shall be determined from the logs required by **Condition 15**.

7. Purchase orders and invoices for all VOC and HAP containing materials along with current material safety and data sheets (MSDS) must be maintained and kept available for inspection by the Technical secretary or his representative. MSDS's must explicitly list the VOC content in pounds per gallon of coating and HAP content by weight. If MSDS's are not available with this information, vendor formulation data containing the required information for those materials must also be maintained. These records must be retained for not less than five years.
8. Unless otherwise stated, visible emissions from any stack, vent, or opening to the atmosphere shall not exceed 20 percent opacity as determined by EPA Method 9 as published in the current 40 CFR 60, Appendix A. (6 minute average)
9. Should proof of compliance for the pollutant(s) with emission limitation(s) placed on this permit be required, the emissions measuring test method(s) and procedure(s) are the following:

Pollutant or ParameterTesting Methodology

Particulate Matter

EPA Method 5 as published in the current 40 CFR 60, Appendix A

Volatile Content of
Surface Coatings

EPA Method 24 as published in the current 40 CFR 60, Appendix A

10. Excess emissions shall be addressed as specified in Chapter 1200-3-20 of the Tennessee Air Pollution Control Regulations.

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11. A report stating the compliance status of this facility with permit **Conditions 5, 6, 24, and 26** shall be submitted by March 31 of every year beginning in 2005. This report shall cover the preceding calendar year, and shall include the records required by **Conditions 15 and 26**.

This report shall be submitted to:

Columbia Environmental Assistance Center
Division of Air Pollution Control
2484 Park Plus Drive
Columbia, TN 38401

12. The as-supplied VOC content of all VOC-containing materials to be used at this facility shall be determined as follows:

All Coatings, Inks, Adhesives, Thinners, and Solvents - from Material Safety Data Sheets (MSDS) or manufacturer or vendor formulation data which explicitly list the VOC content in pounds per gallon of coating.

The results of these determinations shall be compiled in the following tabular format or an alternative format which readily provides the same required information. This table, along with MSDS or other supporting documentation for each material used, shall be maintained at the source location and made available for inspection by the Technical Secretary or his representative, beginning 180 days from the issue date of this permit. If new materials are used, or if material formulation is changed, the table shall be updated within 90 days from the initial date of usage of the new or altered material.

Process Material Description	Material Density (lb/gal)	VOC Content (lb/gal)
Material #1		
Material #2		
etc.		

13. This permit supersedes any previous permits for these sources.
14. The permittee shall apply for renewal of this permit not less than 60 days prior to the permit's expiration date.
15. The permittee shall calculate the actual quantities of VOCs and HAPs emitted from this facility during each calendar month and all 12 consecutive month intervals, and shall maintain records of these emissions in a form that readily shows compliance with **Conditions 5 and 6** of this permit. (See example below) This log must be maintained at the source location and kept available for inspection by the Technical Secretary or his representative. This log must be updated within 30 days after the end of each calendar month of operation and must be retained for a period of not less than five (5) years.

Monthly Usage and VOC/HAP Emission Log for Sources 04, 07, 09 Month _____ Year _____

Process Material	Usage (gal/mo)	VOC Content (lb/gal)	VOC Emitted (ton/mo)	HAP #1 Content (fraction by wt.)	HAP #1 Emitted (ton/mo)	HAP #2 Content (fraction by wt.)	HAP #2 Emitted (ton/mo)	Total HAPs Emitted (ton/mo)
Coating #1								
Coating #2								
etc.								
Thinners								
Clean-up Solvents								
Totals:								

Yearly Plant Wide VOC/HAP Emission Log

Month/Year	VOC emissions (tons/month)	VOC emissions per 12 consecutive months (tons)*	HAP #1 emissions (tons/month)	HAP #1 emissions per 12 consecutive months (tons)*	HAP #2 emissions (tons/month)	HAP #2 emissions per 12 consecutive months (tons)*	Total HAP emissions (tons/month)	Total HAP emissions per 12 consecutive months (tons)*

(*) The Tons per 12 Month value is the sum of the emissions in the 11 months preceding the month just completed + the emissions in the month just completed. If data is not available for the 11 months preceding the initial use of this Table, this value will be equal to the value for tons per month. For the second month it will be the sum of the first month and the second month. Indicate in parentheses the number of months summed [i.e., 6 (2) represents 6 tons emitted in 2 months]. This log is the total amount of VOCs and HAPs emitted to the air on a 12-month consecutive basis.

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SECTION II: SOURCE SPECIFIC CONDITIONS

41-0011-03 Woodworking Operation: Furniture Manufacturing; Baghouse Controls

16. The maximum process weight rate shall not exceed 800 pounds per hour. The Technical Secretary may require proof of compliance with this rate.
17. Particulate matter emitted from this source shall not exceed 4.63 pounds per hour.

This emission limitation is established pursuant to Rule 1200-3-7-.01(5) of The Tennessee Air Pollution Control Regulations and the information contained in the agreement letter dated December 23, 1987. This source may not operate unless the control equipment (baghouses) is in place and operating properly.
18. Routine maintenance, as required to maintain specified emission limits, shall be performed on the air pollution control device(s). Maintenance records shall be recorded in a suitable permanent form and kept available for inspection by the Division. These records must be retained for a period of not less than two years.
19. Upon the malfunction/failure of any emission control device(s) serving this source, the operation of the process(es) served by the device(s) shall be regulated by Chapter 1200-3-20 of the Tennessee Air Pollution Control Regulations.

41-0011-04 Spray Coating Operations: Five (5) Spray Booths, Gas Drying Oven, Coating Wood Furniture; Exhaust Filter Control.

20. Particulate matter emitted from this source shall not exceed 0.925 pounds per hour.

This emission limitation is established pursuant to Rule 1200-3-7-.01(5) of the Tennessee Air Pollution Control Regulations and the information contained in the agreement letter dated July 20, 2001 from the permittee. The permittee has requested this limit in order to reduce fees. This source may not operate unless the control equipment (exhaust filters) is in place and operating properly.
21. Visible emissions from the stack(s) shall not exhibit greater than ten percent (10%) opacity as determined by EPA Method 9, as published in 40 CFR 60, Appendix A. (six-minute average)
22. Routine maintenance, as required to maintain specified emission limits, shall be performed on the air pollution control device(s). Maintenance records shall be recorded in a suitable permanent form and kept available for inspection by the Division. These records must be retained for a period of not less than five (5) years.
23. Upon the malfunction/failure of any emission control device(s) serving this source, the operation of the process(es) served by the device(s) shall be regulated by Chapter 1200-3-20 of the Tennessee Air Pollution Control Regulations.

41-0011-07 Surface Coating of Metal Furniture (NSPS): Two (2) Electrostatic Spray Booths; Exhaust Filter Control, Natural Gas Drying Ovens; Coating of Miscellaneous Metal Parts. Natural Gas Fired Three (3) Stage Washing System; Powder Coating System

24. Volatile organic compounds emitted from this source shall not exceed 40 tons during all intervals of 12 consecutive months. Compliance with this condition shall be indicated from the records required by **Condition 15**.
25. Within one (1) year of issuance of this permit, the permittee shall furnish to the Technical Secretary a written report of the results of the performance test required by 40 CFR 60, Subpart EE, Standards of Performance for Surface Coating of Metal Furniture. If a powder coating application is used, i.e. surface coating is applied as a dry powder and is fused into a continuous coating film through the use of heat, and NO organic coatings are applied to metal furniture, the performance test required by Condition 25 and the standards and records required in Condition 26 will not apply and may be disregarded. The performance test procedure is explained as follows:

(conditions continued on next page)

When applying organic coatings to surface coat metal furniture, the permittee shall calculate a monthly volume-weighted average emission rate of VOCs in terms of mass of VOC emitted per volume of solids applied using the equations below:

$$M_o + M_d = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj} \quad \text{Equation 1}$$

$$L_s = \sum_{i=1}^n L_{ci} V_{si} \quad \text{Equation 2}$$

$$G = \frac{M_o + M_d}{L_s T} \quad \text{Equation 3}$$

where,

n = number of different coatings used during a calendar month

m = number of different diluent VOC-solvents used during a calendar month

M_o = mass of VOCs in coatings consumed (lbs)

M_d = mass of diluent VOC-solvent consumed (lbs)

L_c = volume of each coating consumed (gallon)

D_c = density of each coating, as received (lbs/gallon)

W_o = proportion of VOCs in each coating, as received (fraction by weight)

L_d = volume of each diluent VOC-solvent added to coatings (gallons)

D_d = density of each diluent VOC-solvent (lb/gallon)

L_s = volume of coating solids consumed (gallon)

V_s = proportion of solids in each coating, as received (fraction by volume)

G = volume-weighted average mass of VOCs in coatings consumed in a calendar month per unit volume of coating solids applied (lb/gallon)

T = transfer efficiency (fraction)

Table 1.

Application methods*	Transfer efficiency
Air atomized spray	0.25
Airless spray	0.25
Manual electrostatic spray	0.60
Nonrotational automatic electrostatic spray	0.70
Rotating head electrostatic spray (manual and automatic)	0.80
Dip coat and flow coat	0.90
Electrodeposition	0.95

- Equation 1 calculates the actual mass of VOCs emitted during a calendar month. For each coating used, multiply the usage of that coating (L_c) for the month, the density of that coating (D_c) and the VOC content of that coating (W_o) together. Add all the values for each coating together (M_o). If applicable, multiply the usage of each thinner (L_d) by the density of that thinner (D_d). Add all the values for each thinner together (M_d).
- Equation 2 calculates the actual volume of solids used during the month. For each coating used, multiply the usage of that coating for the month (L_c) by the solids content of that coating on a volume basis (V_s). Add all the results for each coating (L_s).
- Equation 3 calculates the monthly volume-weighted average emission rate in terms of pounds of VOC emitted per gallon of solids applied. Divide the result of Equation 1 (M_o + M_d) by the product of the result of Equation 2 (L_s) and the appropriate transfer efficiency listed in **Table 1** (T).

*If more than one application method is used, the permittee shall determine a weighted average transfer efficiency by using the equation below. The weighted average transfer efficiency will replace the transfer efficiency in Equation 3 when more than one application method is used.

$$T = \frac{\sum_{i=1}^n L_{cik} V_{sik} T_k}{\sum_{k=1}^p L_s} \quad \text{Equation 4}$$

where,

n = number of different coatings used

p = number of different application methods used

T = weighted average transfer efficiency

- Equation 4 calculates weighted average transfer efficiency for when more than one application method is used. For each application method, take the usage of each coating (L_c) for a specific method and multiply by the solids content of the coating on a volume basis (V_s) and multiply by the transfer efficiency associated with the application of that particular coating (T). Add all the results for each coating and application method used, and then divide by the result of Equation 2 (L_s) to get the weighted average transfer efficiency.

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26. On and after the date on which the initial performance test required by Condition 25 is completed, the permittee shall not exceed an emission rate from the metal furniture coating operation of **7.51 pounds of VOC per gallon of solids applied**, monthly volume-weighted average.

Beginning after the initial performance test is completed, the permittee shall perform subsequent monthly performance tests to demonstrate continued compliance with the VOC emission rate stated in this condition. Records of the results of the performance tests, as determined by the procedure outlined in Condition 25, shall be kept in tabular format (see example below) and must be performed within 30 days after the end of each calendar month. These records must be made readily available for inspection by the Technical Secretary or his representative, and all supporting data and calculations must be retained for a period of not less than five (5) years. These records shall be submitted to the Division as part of the annual compliance report required by Condition 11.

Monthly Log of Coating and Thinner usage for the Coating of Metal Furniture

Month _____ Year _____

Coating and/or Thinner used on Metal Furniture	Usage (gal)	Density (lb/gal)	VOC Content (fraction by WEIGHT)	Solids Content (fraction by VOLUME)	Transfer Efficiency ** (fraction)	VOC emission rate *** (lb VOC/gal solids applied)
Coating						
Coating						
Thinner*						
Thinner*						
Etc.						
Totals						

*DO NOT include the usage of thinners for clean-up operations; use only the actual quantities of thinners added to coatings.

** only necessary if more than one application method is used.

*** monthly volume-weighted average emission rate.

27. Particulate matter (TSP) emitted from this source shall not exceed 1.08 pounds per hour.

This emission limitation is established pursuant to Rule 1200-3-7-.01(5) of the Tennessee Air Pollution Control Regulations and the information contained in the agreement letter dated July 6, 2001 from the permittee. The permittee has requested this limit in order to reduce fees. This source may not operate unless the control equipment (exhaust filters) is in place and operating properly.

28. Visible emissions from the stack(s) shall not exhibit greater than ten percent (10%) opacity as determined by EPA Method 9, as published in 40 CFR 60, Appendix A. (six-minute average)

29. Routine maintenance, as required to maintain specified emission limits, shall be performed on the air pollution control device(s). Maintenance records shall be recorded in a suitable permanent form and kept available for inspection by the Division. These records must be retained for a period of not less than five (5) years.

30. Upon the malfunction/failure of any emission control device(s) serving this source, the operation of the process(es) served by the device(s) shall be regulated by Chapter 1200-3-20 of the Tennessee Air Pollution Control Regulations.

41-0011-09 Sign Plant and Dip Coating Operation: One Spray Booth with Exhaust Filter Control, One Cleaning Operation, One Coating Dip Tank with Dry Off Area, and Screen Printing Equipment.

31. Particulate matter (TSP) emitted from this source shall not exceed 0.02 grains per dry standard cubic foot (3.96 pounds per hour). This source may not operate unless the control equipment (exhaust filters) is in place and operating properly.

32. Routine maintenance, as required to maintain specified emission limits, shall be performed on the air pollution control device(s). Maintenance records shall be recorded in a suitable permanent form and kept available for inspection by the Division. These records must be retained for a period of not less than five (5) years.

33. Upon the malfunction/failure of any emission control device(s) serving this source, the operation of the process(es) served by the device(s) shall be regulated by Chapter 1200-3-20 of the Tennessee Air Pollution Control Regulations.

(END OF CONDITIONS)

CURRENT EMISSIONS REQUIREMENTS AND EMISSION SUMMARY

COMPANY NAME: TRICOR

1. EMISSION SOURCE REFERENCE NUMBER: 41-0011

NONATTAINMENT: _____ ATTAINMENT: X

2. LOG NUMBER: 54137

3A. PERMIT STATUS: NEW X RENEWAL _____ RELOCATION _____

3B. PREVIOUS PERMIT NUMBER: _____ CONSTRUCTION: 952423P, 956598P
952426P, 949582P OPERATING: 034419F

4. IDENTIFY IF ONLY A PART OF THE SOURCE IS SUBJECT TO THIS REQUIREMENT	5. POLLUTANT	6. APPLICABLE REQUIREMENT(S): TN AIR POLLUTION CONTROL REGULATIONS, 40 CFR, PERMIT RESTRICTIONS, AIR QUALITY BASED STANDARDS	7. LIMITATION	8. MAXIMUM ACTUAL EMISSIONS			9. MAXIMUM ALLOWABLE EMISSIONS	
				IN UNITS OF ITEM 7	POUNDS / HOUR	TONS / YEAR	POUNDS / HOUR	TONS / YEAR
Facility Wide	VOC	1200-3-9-.02(11)(a)	95 tons					95
Facility Wide	HAP – single	1200-3-9-.02(11)(a)	9.2 tons					9.2
	HAP – all		22.5 tons					22.5
Source 03	TSP	1200-3-7-.03(1)	4.63 lb/hr				4.63	20.3
Source 04	TSP	1200-3-7-.01(5)	0.925 lb/hr				0.925	4.05
Source 07	TSP	1200-3-7-.01(5)	1.08 lb/hr				1.08	4.73
Source 07	VOC	40 CFR 60, Subpart EE 1200-3-7-.07(2)	7.5 lb/gal solids applied 40 tons/year					40
Source 09	TSP	1200-3-7-.04(1)	0.02 gr/dscf				3.96	17.3
Source 04	Opacity	1200-3-5-.01(3)	10%					
Source 07	Opacity	1200-3-5-.01(3)	10%					
Rest of Facility	Opacity	1200-3-5-.01(1)	20%	SOURCE OF DATA FOR EMISSIONS IN ITEM 8: Data was taken from previous permit numbers 034419F, 952423P, 956598P, 952426P, 949582P and the application dated December 6, 2000.				

IF THIS IS NOT A TITLE V SOURCE, IS THIS A DEFERRED SOURCE (SUBJECT TO NSPS OR NESHAPS) OR A SYNTHETIC MINOR SOURCE? YES
IF THE ANSWER IS YES, EXPLAIN: Conditional Major source status. Source 07 is subject to NSPS – Surface Coating of Metal Furniture

ENGINEERING SPECIALIST: John Fuss

DATE: 5/13/04

SUPERVISOR: _____

DATE: _____